

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) Silane cross-linked polyolefin tubes comprising a polyolefin composition prepared by a single stage process that comprises:
(A) a polyolefin,
(B) a mixture of an organic silane of the general formula RSiX_3 (B1), a radical-generating constituent (B2) and a catalyst (B3), and
(C) a stabilizer mixture comprised of a phenolic constituent (C1), a sulfur-containing constituent (C2), a phosphorus-containing processing stabilizer (C3) and a metal deactivator (C4);
wherein the tubes which are intended for drinking water and/or water for industrial use, which are resistant to chlorine in water at a chlorine content between 0.1 and 5 ppm, which are made according to the single stage process and which have the composition has a minimum cross-linking degree of 60%.
2. (Canceled)
3. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim ~~2~~ 1, ~~characterized in that the~~ wherein constituent (A) is selected from the group consisting of low-pressure polyethylenes (~~HDPE~~) having a degree of crystallinity between 60 and 80% and a density from 0.942 to 0.965 g/cm³ ~~or~~ and a polyethylene having a mean density of 0.930 to 0.942 g/cm³ (~~MDPE~~).
4. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim ~~2~~ 1, ~~characterized wherein in that~~ the organic silane of the general formula ~~RSiX_3 (B1) of the constituent (B)~~ RSiX_3 (B1) is selected from the group consisting of vinyltrimethoxysilane, vinyltriethoxysilane ~~or~~ and 3-(methacryloxy)propyltrimethoxysilane.

5. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim 2 ~~1~~, ~~characterized in that~~ wherein the radical-generating constituent (B2) ~~of the constituent (B)~~ is selected from the group consisting of alkylperoxide, acylperoxide, ketoneperoxide, hydroperoxide, peroxocarbonate, perester, peroxoketal, and/or peroxooligomers, ~~particularly from the group of alkylperoxide.~~
6. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim 2 ~~1~~, ~~characterized in that~~ wherein the radical-generating constituent (B2) ~~of the constituent (B)~~ is an azo compound.
7. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim 2 ~~1~~, ~~characterized in that~~ wherein radical-generating constituent (B2) ~~of the constituent (B)~~ is an organic alkylperoxide having a half-value time of 0.1 hour at temperatures > 80°C.
8. (Currently amended) The silane cross-linked polyolefin tubes as defined in claim 2-7, ~~characterized in that~~ wherein the organic alkylperoxide is selected from the group consisting of 2,5-dimethyl-2,5-di(tertiary-butylperoxy)hexane, ~~and/or~~ 2,5-dimethyl-2,5-di(tertiary-butylperoxy)3-hexine, ~~and/or~~ di(tertiarybutyl)peroxide, ~~and/or~~ 1,3-di(tertiary-butyl-peroxyisopropyl)benzol, ~~and/or~~ dicumylperoxide, ~~and/or~~ tertiary-butylcumylperoxide, and combinations thereof.
9. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim 2 ~~1~~, ~~characterized in that~~ wherein the catalyst (B3) of the constituent (B) is selected from the group consisting of dibutyltindilaurate, dibutyltin oxide, tin octoate, dibutyltinmaleate ~~or~~ and titanylacetate.
10. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim 2 ~~1~~, ~~characterized in that~~ wherein the ~~high melting point, high molecular~~ phenolic constituent (C1) ~~of the constituent (C)~~ is selected from the group consisting of

- 2,2'-methylenebis(6-tertiary-butyl-4-methylphenol), 1,3,5-trimethyl-2,4,6-tris(3,5-di-tertiary-butyl-4-hydroxybenzyl)benzol, octadecyl-3-(3,5-di-tertiary-butyl-4-hydroxyphenyl)propionate, 1,1,3-tris(2-methyl-4-hydroxy-5-tertiary-butylphenyl)butane, tris(3,5-di-tertiary-butyl-4-hydroxybenzyl)isocyanurate, tris(4-tertiary-butyl-3-hydroxy-2,6-dimethylbenzyl)isocyanurate, pentaerythritoltetrakis(3,5-di-tertiary-butyl-4-hydroxyhydrocinnamate) or and 1,3,5-tris(3,5-di-tertiary-butyl-4-hydroxybenzyl)triazine.
11. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim ~~2~~ 1, ~~characterized in that~~ wherein the sulfur-containing constituent (C2) ~~of the constituent (C)~~ is selected from the group consisting of 5-tertiary-butyl-4-hydroxy-2-methylphenylsulfide, 3-tertiary-butyl-2-hydroxy-5-methylphenylsulfide, dioctadecyl-3,3'-thiodipropionate, dilauryl-3,3'-thiodipropionate ~~or~~ and ditetradecyl-3,3'-thiodipropionate.
12. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim ~~2~~ 1, ~~characterized in that~~ wherein the phosphorus-containing processing stabilizer (C3) ~~of the constituent (C)~~ is selected from the group consisting of tris(nonylphenyl)phosphite, tris(2,4-di-tertiary-butylphenyl)phosphite, tetrakis(2,4-di-tertiary-butylphenyl)-4,4'-biphenyldiphosphonite, 3,9-bis(octadecyloxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecan ~~or~~ and 3,9-bis(2,4-dicumylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecan.
13. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim ~~2~~ 1, ~~characterized in that~~ wherein the metal deactivator (C4) ~~of the constituent (C)~~ is selected from the group consisting of 1,2-bis(3,5-di-tertiary-butyl-4-hydroxyhydrocinnamoyl)hydrazide, or 2,2'-oxalyldiamidobis-(ethyl-3-(3,5-di-tertiary-butyl-4-hydroxyphenyl)propionate) ~~or~~ and oxalic bis(benzylidenehydrazide).

14. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim 2 1, ~~characterized in that~~ wherein the weight part of constituent (B), related to constituent (A) is between 0.1 and 5 parts, ~~particularly between 1 and 3 parts.~~
15. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim 2 1, ~~characterized in that~~ wherein the weight part of constituent (C), related to constituent (A) is between 0.1 and 5 parts.
16. (Currently Amended) The silane cross-linked polyolefin tubes as defined in claim 2 1, ~~characterized in that~~ further comprising up to 20 weight parts of additives, related to constituent (A), ~~are added in the form~~ selected from of up to 5 weight parts of lubricating or processing agents, up to 5 weight parts of nucleation agents, up to 5 weight parts of antistatic agents, up to 10 weight parts of processing oils, up to 10 weight parts of pigments, up to 5 weight parts of expanding agents ~~or~~ and up to 5 weight parts of ultraviolet stabilizers.
17. (Currently Amended) The silane cross-linked polyolefin tubes as defined in one of the preceding claims, ~~characterized in that~~ wherein the tube has a cross-linking degree in the range of 60 to 89%, ~~particularly between 65 and 75%.~~
18. (Withdrawn, currently amended) A method of making a silane cross-linked polyolefin tube as defined in claim 1, characterized in that the graft reaction of the silane of the constituent (B1) on the polyolefin of the constituent (A) as well as the shaping proceed simultaneously in the course of one processing step, while utilizing a barrier screw and/or a fusion pump, thereafter the tubes are stored in a cross-linking chamber in a water vapor atmosphere at 80-100°C until a cross-linking degree in excess of 60% is reached and, lastly, a tempering step occasionally follows at temperatures between 70 and 95°C until the desired, application-dependent degree of ~~crystallinity~~ crystallinity is reached.

19. (Previously Presented) Tubes for drinking water and/or water for industrial use, said tubes comprising the silane cross-linked tubes of Claim 1.
20. (New) The silane cross-linked polyolefin tubes as defined in claim 1, wherein the weight part of constituent (B), related to constituent (A) is between 1 and 3 parts.
21. (New) The silane cross-linked polyolefin tubes as defined in one of the preceding claims, wherein the tube has a cross-linking degree in the range of between 65 and 75%.